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Ayurvedic management of mucopurulent chronic bronchitis in children: A Case Report

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ABSTRACT

Mucopurulent chronic bronchitis in children is a persistent inflammatory condition of the respiratory tract, often marked by recurrent episodes of productive cough with thick, mucoid or purulent sputum. Ayurveda is a traditional system of medicine from India that emphasizes a holistic approach to health, focusing on balance between body, mind, and environment. It emphasizes balance among bodily humours known as Doshas. Mucopurulent chronic bronchitis can be correlated with *Kaphaja Kasa*, a disorder classified under *Pranavaha Sroto Vikara*, primarily caused by the aggravation of *Kapha* and *Vata Doshas*. It is commonly triggered by the consumption of heavy, oily, and cold foods (*Kaphakara Ahara*) and lifestyle habits that promote *Kapha* accumulation (*Kaphakara Vihara*). Children are particularly susceptible due to their natural *Kapha-dominant* physiology. Persistent cough, as a prominent symptom, significantly impairs quality of life in paediatric patients and often necessitates repeated clinical interventions. This case report presents the Ayurvedic management of a 12-year-old girl diagnosed with *mucopurulent chronic bronchitis*, clinically understood as *Kaphaja Kasa*. She reported recurrent productive cough for over a year, with a recent exacerbation involving expectoration of white mucoid sputum for the last 3–4 days. Symptoms were notably aggravated during early mornings, night-time, and seasonal transitions. After thorough clinical evaluation, Ayurvedic treatment was initiated, which included *Sthanik Abhyanga* (localized massage), *Nadi Swedana* (localized steam therapy), and internal medications designed to pacify aggravated *Kapha Dosha*. The patient responded well to the treatment, showing a significant reduction in cough frequency, sputum production, and associated discomfort. She was discharged with *Samana Oushadhi* (mild pacifying medicines), which were continued for 15 days post-treatment. This case highlights the effectiveness of classical Ayurvedic interventions in the management of mucopurulent chronic bronchitis in children. The integrative use of external therapies and internal medication helped address the underlying *Kapha* imbalance, leading to sustained relief without recurrence. Such evidence supports the role of Ayurvedic protocols in treating chronic paediatric respiratory conditions safely and effectively.

Keywords: Ayurveda, Kaphaja kasa, Mucopurulent Chronic Bronchitis, Sthanika Abhyanga, Pranavaha Srotodusti Vikara

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INTRODUCTION

Ayurveda, derived from the Sanskrit words *Ayus* (life) and *Veda* (knowledge), is an ancient Indian system of holistic medicine practiced for over 3,000 years. It emphasizes the balance of three fundamental bodily humours, or *Doshas*—*Vata*, *Pitta*, and *Kapha*—as essential for maintaining health. *Kasa*, as described in Ayurvedic literature, corresponds closely to the modern clinical presentation of cough. The word 'Kasa' originates from the root 'Kasri', denoting 'Shabdakutsanyam' – an unpleasant or harsh sound, typically described as resembling the clanging of broken bronze. Hence, the phrase 'Kasanat eti Kasa' refers to a pathological sound caused by deranged respiratory function.[1] In Ayurveda, Kasa is classified under *Pranavaha Srotas Vikara* (disorders of the respiratory channels), and its pathogenesis involves the obstruction or vitiation of *Prana Vayu* and *Udana Vayu*, both essential for respiration and vocalization. When their natural movements are hindered, either due to internal imbalance or external aggravating factors, it results in symptoms such as the accumulation of mucus, a feeling of heaviness in the chest (*Kapha Sampoorna Ura*), general fatigue, loss of appetite, and persistent cough with thick, mucoid expectoration.[2,3]

Kasa may arise as an independent disease (*Swatantra Vyadhi*) or as a symptom or complication (*Lakshana*, *Upadrava*) of other systemic conditions.[4] It presents with general systemic signs (*Sarvadaihika Lakshana*) along with localized manifestations affecting the upper respiratory tract (*Urdhvajatrugata Lakshana*). Among the five types of Kasa described in Ayurveda, *Kaphaja Kasa* is one of the most prevalent in the paediatric population, primarily due to the natural dominance of *Kapha Dosha* during childhood (*Balya Avastha*).[5] Cough is a leading cause of medical consultations in children, with global prevalence rates ranging from 34% to 55%.[6] The etiological factors contributing to Kaphaja Kasa include consumption of heavy, oily, cold, and sweet foods (*Guru, Snigdha, Abhishyandi, Madhura Ahara*), sedentary lifestyle (*Avyayama*, *Vicheshtana*), daytime sleeping (*Divaswapna*), and prolonged exposure to dust or cold environments.[7] These factors act as *Vyanjaka Hetu* (precipitating causes) for the manifestation of the disease.[8]

Prodromal symptoms (*Poorvarupa*) of Kasa include *Shookapurna Galaasyata* (sensation of throat filled with bristles), *Kande Kandu* (itching in throat), and *Bhojyanaam Avarodha* (obstruction in swallowing).[9] Full-fledged Kaphaja Kasa is characterized by *Mandagni* (low digestive fire), *Aruchi* (anorexia), *Chardi* (vomiting), *Peenasa* (rhinitis), *Utklesha* and *Gaurava* (nausea and body heaviness), *Lomaharsha* (horripilation), *Aasya Madhurya* (sweet taste in mouth), *Kleda Samsadana* (stickiness), and *Bahulam Madhuram Snigdham Nishteevati Ghana Kapha* (profuse, thick, sweet, unctuous sputum).[10] The patient often complains of fullness in the chest region (*Vaksha Sampoorna Iva*), resembling the clinical features of Mucopurulent Chronic Bronchitis.

Mucopurulent chronic bronchitis is defined in modern medicine as a daily productive cough persisting for over three months in a year.[11] Common causes include postnasal drip, asthma, and post-infectious cough syndromes.[12] Standard treatment involves mucolytics, expectorants, and antibiotics, but long-term use can lead to drug resistance and adverse effects. Thus, there is growing interest in natural, holistic alternatives. Ayurveda offers a root-cause-based approach to *Kaphaja Kasa*, utilizing herbal medications, detoxifying therapies (*Panchakarma*), and lifestyle modifications. This case report aims to explore the effectiveness of Ayurvedic management in a paediatric case of mucopurulent chronic bronchitis, clinically correlated with *Kaphaja Kāsa* in Ayurvedic literature. The study specifically focuses on evaluating the therapeutic potential of Ayurvedic interventions—including *Sthanik Abhyanga* (localized massage), *Nadi Swedana* (steam therapy), and internal medications such as *Sitopaladi Churna* and *Koflet Syrup*—in reducing respiratory symptoms and improving overall well-being. The objective is to document the clinical course, therapeutic response, and safety profile of this integrative approach in the paediatric population, with detailed observations on the medications, *Panchakarma* procedures, and symptomatic changes.

1. Case presentation

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2.1 Patient Information

A 12-year-old girl, studying in the 5th standard, with a lower middle-class socio-economic background, was brought by her parents to the Outpatient Department of Kaumarabhritya, Khemdas Hospital, Vadodara. She was admitted to the Kaumarbhritya IPD (IPD No. 250626, OPD No. 25004976) on 6 February 2025. The date of examination (D.O.E) and date of admission (D.O.A) were both 6 February 2025, and she was discharged on 14 February 2025 (D.O.D).

2.2 Case History

The patient had been suffering from recurrent episodes of cough for the past year, with a recent exacerbation involving a productive cough with white mucoid sputum for the last 3–4 days. The symptoms were notably aggravated during early mornings, night-time, and seasonal changes. Additionally, she had complaints of mild intermittent fever and headache for the past 2 days and mild abdominal pain persisting for the last 15 days. Considering the chronicity, worsening pattern, and recurrence of symptoms despite previous treatments, she was admitted to the Kaumarabhritya IPD for detailed assessment and Ayurvedic management.

The patient was apparently in good health until 1 year ago, when she developed a persistent cough accompanied by fever, lasting for about a week. Her parents sought consultation at a private clinic near their residence, where she was diagnosed with pneumonia. She was prescribed a course of antibiotics, cough syrups, and nebulisation therapy for 10 days, following which her symptoms subsided and the medications were discontinued. However, with each seasonal change, she began experiencing recurrent bouts of cough, particularly during the night, early morning and upon exposure to cold. Despite continuing medications, her relief was only temporary and unsatisfactory. Subsequently, she was taken to a nearby hospital where a new course of treatment was initiated. Although there was a brief improvement, the cough reappeared within a month, this time accompanied by the expectoration of thick, white sputum in larger quantities. Associated with running nose, mild fever, headache, altered taste sensation lasting for 3 to 4 days, and mild to moderate abdominal pain persisting for approximately 15 days. Due to lack of sustained improvement, her parents brought her to Khemdas Hospital for a more comprehensive evaluation and effective management. A detailed inquiry was conducted concerning the child's dietary habits, lifestyle, and the complete history of her illness. Following a thorough clinical assessment, she was diagnosed with *Kaphaja Kasa* (Mucopurulent Chronic Bronchitis) based on *Ayurvedic* principles and clinical features. She was subsequently admitted to the Inpatient department for *Ayurvedic* management, which included *Sthanika Abhyanga* (massage), *Swedana* (sudation therapy) and internal medications.

The patient has a history of recurrent episodes of cold and cough, particularly exacerbated during seasonal changes, along with a history of pneumonia diagnosed one year ago. There is no significant history suggestive of asthma, allergy or other chronic respiratory illnesses. There is no known family history of asthma or other chronic respiratory diseases. All family members are said to be healthy. The patient had previously received treatment from allopathic clinics, which included syrup Mucolite and syrup Asthalin as bronchodilators. She was also prescribed Tab. Levocet M as an antiallergic and Tab. Xo Clave Duo Forte (a combination of Amoxicillin and Potassium Clavulanate, 457.5 mg) as an antibiotic. Additionally, nebulization was administered using Ipramark, containing Ipratropium Bromide and Levosalbutamol. As per the national immunization schedule, the patient has received all age-appropriate vaccinations up to date. The patient followed a mixed diet and reported disturbed sleep during episodes of illness. Bowel movements occurred 1–2 times per day but were described as non-satisfactory. Micturition frequency was 4–5 times during the day and once at night. Her appetite was poor at the time of presentation.

2.3 Examination

On general examination, the girl appeared fair in complexion with a poor build and poor nourishment status. There was no evidence of pallor, cyanosis, icterus, oedema, or lymphadenopathy. Nail clubbing was absent. Her vital parameters were within normal limits: pulse rate was 94 beats per minute, respiratory rate 22 breaths per minute, blood

pressure 110/70 mmHg, body temperature 98.6°F, and oxygen saturation (SpO_2) was 98%. Anthropometric examination revealed a head circumference of 54 cm, chest circumference of 68 cm, and mid-upper arm circumference of 20 cm. Her height measured 144 cm and weight was 38 kg, resulting in a Body Mass Index (BMI) of 18.32 kg/m².

On respiratory system examination, inspection showed a bilaterally symmetrical chest with no visible scars or deformities. On palpation, the trachea was centrally located with no tenderness, and chest expansion was symmetrical and normal on both sides. However, vocal fremitus was diminished. Percussion revealed normal resonance, and auscultation revealed bilateral wheezing, more prominent in the right lower lobe and left upper lobe during expiration. The anteroposterior chest diameter was 10 cm and transverse diameter was 21 cm, with a chest expansion of 2 cm. Cardiovascular system examination showed no visible venous distention, scars, or deformities. The apex beat was palpable, and on auscultation, both S1 and S2 heart sounds were heard with no added murmurs. Gastrointestinal examination revealed no distension, scars, or deformities. Palpation did not reveal any organomegaly, although mild tenderness was present in the epigastric region. Percussion was dull, and bowel sounds were audible on auscultation. Central nervous system examination showed the patient to be alert, conscious, and well-oriented to time, place, and person.

2.4 Ayurvedic Assessment

Ashtasthana Pariksha

According to Ayurvedic assessment, the *Nadi* (pulse) indicated a *Vata-Pitta* predominance. *Mootra* (urine) and *Mala* (stool) were found to be in a normal state (*Prakruta*). The *Jihwa* (tongue) was coated (*Lipta*), and *Shabda* (voice), *Drik* (vision), and *Sparsha* (touch) were *Prakruta*, with the touch being slightly warm (*Ushna*). The *Aakriti* (body structure) was lean (*Krusha*).

Dashavida Pariksha

The patient's Prakriti (constitution) was identified as Vata-Pitta, while her Vikriti (current pathology) was assessed as Kapha dominant. Sara (tissue quality) and Samhanana (structural integrity) were both of medium grade (Madhyama). Pramana (body measurements) confirmed a height of 144 cm, weight of 38 kg, and BMI of 18.32 kg/m². She was Sarvarasa Satmya (adapted to all tastes) and had a Madhyama Satva (moderate mental strength). Her Ahara Shakti (digestive capacity) and Vyayama Shakti (exercise capacity) were both poor (Avara). Based on her chronological age, she was in the Bāla Avastha (childhood stage).

2.5 Diagnostic Assessment

Laboratory findings

The laboratory findings are summarized in the figure which reflects a mild leucocytosis with neutrophilic predominance, indicative of an ongoing inflammatory or infectious process. These values support the clinical features observed in the patient.

Radiological Findings

The chest radiograph demonstrated increased broncho-vascular markings, suggestive of chronic inflammatory changes. No signs of collapse, consolidation, lymphadenopathy, or pleural pathology are evident, supporting the diagnosis of mucopurulent bronchitis without significant structural abnormalities.

2.6 Ayurvedic Assessment

Subjective Parameters

1. *Kasa* (cough)
2. *Bahala, Snigda, Swetanishteevana* (expectoration)
3. *Gourava* (heaviness)
4. *Mandagni* (loss of appetite)
5. *Peenasa* (running nose)
6. *Kanthakandu* (itching sensation in throat)

Nidana Panchaka

The condition was assessed through the classical Ayurvedic diagnostic model of *Nidana Pancaka*, which includes the cause (*Nidana*), prodromal symptoms (*Purvarupa*), signs and symptoms (*Rupa*), relieving factors (*Upashaya*), and aggravating factors (*Anupashaya*). The *Nidanas* (etiological factors) identified in this case were the habitual intake of heavy (*Guru*), cold (*Sita*), unctuous and obstructive (*Abhishyandi*), and sweet (*Madhura*) foods, along with irregular lifestyle practices such as daytime sleeping (*Divasvapna*). The *Purvarupa*

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(prodromal symptoms) included loss of taste and appetite (*Aruchi*), sluggish digestion (*Mandagni*), and throat irritation (*Kantha Kaṇḍu*). The *Rupa* (clinical symptoms) observed were nasal discharge (*Peenasa*), sweetish taste in the mouth (*Madhurasya*), and a sense of heaviness in the chest (*Gaurava*), consistent with the features of *Kaphaja Kasa*. Upashaya (palliative factors) included relief upon intake of warm food and warm water (*Uṣṇa Ahara* and *Uṣṇa Jala*), while *Anupashaya* (aggravating factors) included exposure to cold, heavy, oily, fermented, fried, sour, and dry (*Rukṣa*) foods, as well as environmental triggers like dust, smoke, and fumes, all of which worsened the symptoms.

Samprapti Ghataka

The *Samprapti* (pathogenesis) of the disease involves multiple interrelated Ayurvedic factors. The primary *Dosha* involved was *Kapha* with a secondary association of *Vata*. The main affected *Dhatu* (body tissue) was *Rasa Dhatu*(plasma/lymph), with the presence of *Ama* (metabolic toxins) resulting from impaired digestive fire (*Jatharagni Mandya*). The disease primarily affected the *Srotas* (channels) of the respiratory system (*Praṇavaha*), plasma circulation (*Rasavaha*), digestive system (*Annavaha*), and water metabolism (*Udakavaha*). The type of *Srotodushti* (channel vitiation) identified was *Sanga* (obstruction). The *Udbhava Sthana* (origin site) of the disease was the *Amasaya* (stomach), and the *Vyakta Sthana* (manifestation site) was the *Uras* (chest region), where symptoms like cough, heaviness, and congestion became clinically apparent.

2.7 Diagnosis

The differential diagnosis considered both *Kaphaja Kasa* and *Vataja Kasa*. However, the final diagnosis was confirmed as *Kaphaja Kasa* based on the presence of classical features such as *Sweta, Bahala, Snigdha, Nishteevana*, *Mandagni*, *Aruchi,* and *Madhurasyata* (sweetness in the mouth). *Vataja Kasa* is excluded due to the absence of dry cough, pain in the *Hridaya* (chest) and *Parsva* (sides of the chest), and dryness of the mouth.

2.8 Prognosis

Acharya Charaka, in the Chikitsa Sthana, states that *Kaphaja Kasa* is *Sadhya* because it arises from an imbalance in *Kapha Dosha*, which is easier to balance compared to *Vata* or *Pitta*. Since *Kapha* is *Guru*, *Snigdha*, and *Sthira*, the disease progressed slowly and responded well to therapeutic interventions like *Panchkarma* procedures, *Langhana* (fasting), *Deepana-Pachana* (digestive stimulants), and *Kapha*-reducing herbs.

2.9 Clinical course and Follow-up

On February 6, 2025, the patient started internal Ayurvedic medications comprising *Sitopaladi Churna* (1 g with honey twice daily before food) and *Kamadudha Rasa* (1 tablet twice daily before food with warm water). At this stage, the patient presented with grade 3 restlessness due to difficulty in expectoration. Mucous expectoration was moderate in quantity and quality (*Snigdha, Bahala, Shweta Nishteevana*) and graded as 2. A moderate sense of heaviness in the body (*Gaurava*), without interference in daily activity, was also noted (grade 2). She had moderate digestive impairment (*Mandagni*) graded as 2, while throat irritation during coughing bouts (*Kantha Kandu*) and coryza (*Peenasa*) were mild, each graded as 1.

On 7 February 2025, the patient's condition was assessed using standardized grading parameters from the WHO–DFC guidelines. She exhibited Grade 3 restlessness due to difficulty in expectoration, Grade 2 sputum production, Grade 2 body heaviness, and Grade 2 digestive disturbance. Based on these clinical features and Ayurvedic assessment, a diagnosis of Kaphaja Kasa was confirmed. Investigations including CBC and Chest radiography supported the diagnosis. Ayurvedic management was initiated, including Sthanika Abhyanga with Brihat-Saidhavadi Taila and Nadi Swedana with Nagavalli Patra, along with internal medications like Sitopaladi Churna, Koflet Syrup, Kamadudha Rasa, and later Swasakuthara Rasa. Over 7 days of inpatient care, the patient showed progressive improvement. On 14 February, she was discharged in a stable condition and advised to continue medications at home. She returned for follow-up on 01 March, reporting no recurrence. Preventive measures and a 1-month follow-up regimen were advised to maintain respiratory health and prevent future episodes.

Between February 7 and February 13, 2025, external therapies were initiated. These included *Sthanik*

Abhyanga(localized massage) using *Brihat-Saidhavadi Taila* mixed with *Karpoora* (camphor), followed by *Nadi Swedana*(localized steam therapy) with *Halin* capsules and *Nagavalli Patra* (betel leaves) over the chest region (*Ura Pradesha*). Internal medications continued, including *Sitopaladi Churna* 1 g with honey twice daily before food, *Kamadudha Rasa* 1 tablet twice daily before food with warm water, and *Syrup Koflet* 5 ml three times daily after meals. During this period, significant symptomatic relief was observed. Wet cough became mild with easier expectoration (grade 1), and the *Snigdha* sensation in the oral cavity reduced to grade 1. Heaviness in the body occurred occasionally and was minimal (grade 1). Hunger was slightly improved, though digestion remained irregular (grade 1). Throat irritation (*Kantha Kandu*) and nasal discharge (*Peenasa*) were absent (both grade 0).

On February 14, 2025, the patient was discharged in a stable condition and prescribed a 15-day course of internal medications. This included *Kamadudha Rasa* 250 mg once daily before food with warm water, *Syrup Koflet* 5 ml three times daily after meals, *Sitopaladi Churna* 1 g with honey twice daily before food, and *Swasakuthara Rasa* 250 mg twice daily after food with warm water. At discharge, all symptoms were markedly reduced, and the patient reported no further episodes of cough or cold. She expressed an overall sense of wellness.

On March 1, 2025, during a scheduled follow-up, no recurrence of symptoms was reported. Preventive measures were initiated, which included *Syrup Septilin* (5 ml in the morning and evening) for one month, and *Albendazole* 400 mg tablet to be taken once at bedtime and repeated after one week to address potential parasitic burden and support respiratory immunity.

2.11 Pathya-Apathya

The patient was advised to consume *Koshna Ahara* and *Koshna Jala*. Regular practice of *Pranayama*, meditation and yoga was recommended. The patient was instructed to avoid *Sheeta Ahara (* fried and sour food) and *Ruksha Ahara (* fermented and oily food). Additionally, she was advised to avoid exposure to fumes, smoke and dust.[15]

2.12 Observations and Results

The primary criteria for assessing the therapeutic trial were based on the symptomatic relief observed before and after the treatment. Each symptom was graded according to its severity, providing a standardized framework for evaluation shown in Table 1

Table 1: Showing gradation of symptoms before and after treatment

Sl.no	Symptoms	Before Treatment Grading	After 7 days (On Discharge) Grading	After 15 days of Discharge Grading
1	*Kasa* (cough)	3	1	0
2	*Bahala, snigda, sweta nishteevana* (expectoration)	2	1	0
3	*Gourava* (heaviness)	2	1	0
4	*Mandagni* (loss of appetite)	2	1	0
5	*Peenasa* (running nose)	1	0	0
6	*Kanthakandu* (itching sensation in throat)	1	0	0

The before-treatment chest X-ray revealed increased radiopacity in the lower lung zones, likely due to mucus accumulation, congestion, or infection, along with blurring of the costophrenic angles and prominent bronchovascular markings suggestive of inflammation, chronic bronchitis, or

early pneumonia. The diaphragm appeared slightly elevated, indicating possible respiratory distress or compromised lung expansion as shown in Figure 1. In contrast, the after-treatment X-ray showed marked improvement in lung clarity, with a reduction in opacities and sharper costophrenic angles, suggesting effective mucus clearance and resolution of pleural involvement. The bronchovascular markings were less prominent, indicating reduced inflammation and improved airway function, while the diaphragm appeared more symmetrically positioned, reflecting enhanced lung expansion and respiratory capacity as shown. Overall, the post-treatment radiograph suggests significant clinical improvement, validating the efficacy of the administered therapy.

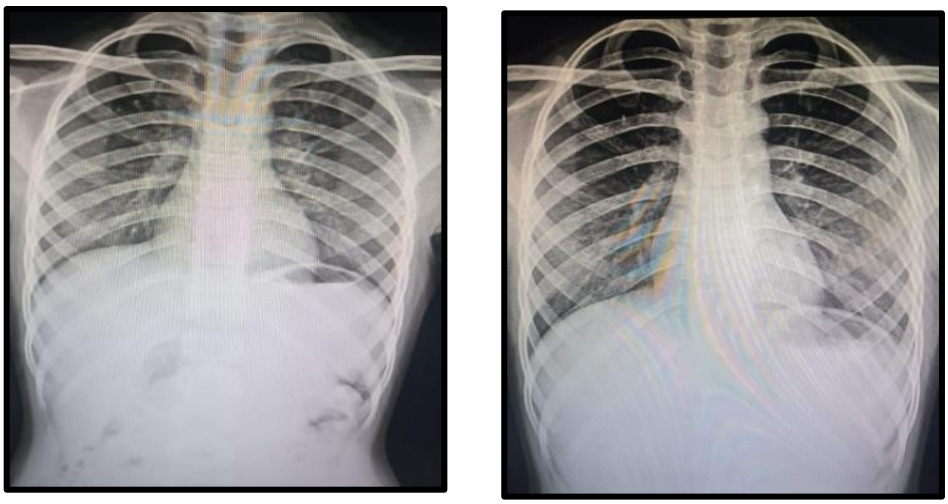

Fig 1: Showing X-ray – PA View before treatment and after treatment

2.13 Patient Perspective

As per the mother's statement, the patient had been experiencing recurrent episodes of cough and was currently presenting with a productive cough associated with sputum expectoration for 3 to 4 days. The cough typically worsens during the night, early mornings, and seasonal changes. Following 7 days of *Sthanika Abhyanga,* and *Swedana* procedures, there was a notable reduction in the persistent productive cough. The child reported a feeling of lightness in the chest and a significant reduction in the sensation of congestion previously felt in the throat and chest region. After discharge, with the continuation of oral medications as instructed for fifteen days, the child expressed further improvement. Her interest in food increased, and her overall general health improved, enabling her to concentrate better on her studies and engage more actively in play activities than before.

2.14 Effect of Intervention

Abhyanga (oil massage) is a fundamental *Ayurvedic* therapy that enhances circulation, reduces stiffness, and promotes detoxification.[16] *Brihat-Saidhavadi Taila*, which contains *Saindhava Lavana* (rock salt), *Vata-Kapha* balancing herbs, and *Ushna* (hot potency) *Dravyas*, is especially effective in respiratory disorders like *Kaphaja Kasa*.[17] The *Ushna Guna* (hot potency) of the oil helps to liquefy thick mucus *(Kapha Vilayana)* and open obstructed channels *(Srotoshodhana).* Its *Snigdha* (unctuous) quality supports lung function and prevents excessive dryness of respiratory mucosa, which can lead to irritation and worsen cough.[18] The massage helped reduce chest congestion, relax respiratory muscles, and improve expectoration. The patient reported relief from tightness in the chest within a few days of *Abhyanga*. Enhanced blood circulation in the chest region further supported better oxygenation and detoxification.

Nadi Sweda (localized steam therapy) is beneficial in respiratory conditions as it helps liquefy thick mucus, relieve congestion, and clear nasal passages.[19] Hallin capsules possess anti-inflammatory and bronchodilator properties, that help reduce inflammation in the bronchial mucosa and improve airflow.[20] *Nagavalli Patra* (Betel leaves) has expectorant and decongestant effects, stimulating mucus clearance and relieving persistent cough.[21,22] After *Nadi Sweda*, the patient experienced a

significant reduction in chest congestion and found breathing easier. Coughing episodes, particularly during the night, reduced in both frequency and severity. The sputum became less thick and more easily expectorated. The patient also reported a sense of lightness in the chest and decreased breathlessness.

Syrup Koflet contains *Madhu* (honey), *Draksha* (Vitis vinifera), *Tulsi* (Ocimum sanctum) *Jufa* (Hyssopus officinalis), *Guduchi* (Tinospora cordifolia*), Vasaka* (Adhatoda vasica), *Jaatipatree* (Myristica fragrans), *Yashtimadhu* (Glycyrrhiza glabra), *Gojiha* (Onosma bracteatum), *Neelapushpa* (Viola odorata), *Triphala, Trikatu, Vidanga* (Embelia ribes), *Kantakari* (Solanum xanthocarpum), *Taja* (Cinnamomum cassia), and *Navasagara*. With mucolytic and expectorant properties, it helps reduce the viscosity of bronchial secretions, facilitates expectoration and soothes bronchial mucosal irritation, thus reducing bronchospasms.[23] The patient showed faster mucus clearance, reduced coughing episodes, and improved airway function, leading to better oxygenation and decreased breathlessness.

Sitopaladi Chhurna, composed of *Sitopala, Vanshlochana, Pippali, Ela*, and *Twak* plays a crucial role in relieving cough.[24] *Pippali* and *Vanshlochana* help liquefy and expel thick mucus, while *Twak* and *Ela* alleviate throat irritation. *Sitopala* acts as a carrier and provides a soothing effect to the irritated mucosa. The child experienced relief from throat irritation, reduction in night-time coughing, and easier expectoration of thick white sputum. *Swasakuthara Rasa* is a herbomineral *Ayurvedic* formulation beneficial for respiratory disorders.[25] It includes purified *Visa* (Aconite), *Pippali* (long pepper), *Maricha* (black pepper), *Sunthi* (ginger), and minerals like *Parada* (mercury), *Gandhaka* (sulfur), *Tankana* (borax), and *Manahsila* (arsenic disulfide) in purified form as per Ayurvedic texts. It exhibits *Swedala, Mutrala, Jvarghna, Ushna Virya* properties. *Pippali* has proven antiallergic and anti-asthmatic properties. *Manahsila* and *Tankana* are effective in breaking down stubborn mucus, clearing the bronchi, and preventing mucus accumulation. The patient expelled excess mucus, which reduced chronic cough recurrence.*Kamadudha rasa* acts as an antacid, providing cooling and soothing effects to the gastrointestinal system.[26] It helps relieve acidity, nausea, and digestive disturbances arising from prolonged illness. It balances *Pitta*, which may become aggravated due to chronic coughing and infections. The patient showed improvement in *Agni*, reduced abdominal discomfort, and enhanced appetite and digestion, leading to better nourishment and overall energy levels.

2.15 Total Effect Of Therapy

The overall improvement observed in the patient's health was around 60 to 70 %, Which substantially enhanced her quality of life. There was a significant reduction in the frequency, intensity, and duration of coughing episodes, particularly during night hours and early mornings. Mucus clearance improved, making the expectoration of thick, white Kapha-dominant sputum easier, which in turn helped reduce chest congestion. The patient experienced less breathlessness, better airflow, and a feeling of lightness in the chest. There was also a marked reduction in Associated Symptoms such as fever, headache, nasal congestion, and digestive discomfort.

2.16 Adverse And Unanticipated Events

There were no adverse or unexpected events observed during the course of treatment. The patient responded well to the planned interventions, ensuring a safe and effective therapeutic process without any complications.

3. Discussion

Kaphaja Kasa is primarily characterized by excessive mucus production, respiratory congestion, and impaired expectoration. It arises from Kapha dosha imbalance, obstructing the *Pranavaha Srotas* and disturbing the flow of *Prana*and *Udana Vayu*, leading to cough, heaviness in the chest, and thick mucoid expectoration. Agnimandya (weakened digestive fire) contributes to Ama formation, which further aggravates Kapha and results in chronicity. Similar concepts are emphasized in classical texts and supported by modern Ayurvedic reviews.[27] In the present case, Ayurvedic interventions aimed at *Kapha-Vata Shamana*—including *Sthanik Abhyanga*, *Nadi Swedana*, and internal medications such as *Sitopaladi Churna* and *Koflet Syrup*—resulted in substantial clinical improvement. Comparable outcomes have been reported in other studies. Kamble et al. observed significant symptom relief in chronic bronchitis patients managed with classical Ayurvedic formulations

such as *Murvādhya Churna*.[28] Similarly, Honawad et al. reported that *Kantakari Churna* improved paediatric Kaphaja Kasa symptoms by reducing cough frequency and sputum viscosity.[29] *Koflet Syrup*, containing *Vasaka (Adhatoda vasica)*, *Guduchi (Tinospora cordifolia)*, and *Yashtimadhu (Glycyrrhiza glabra)*, has demonstrated anti-inflammatory and mucoprotective properties in preclinical models.[30] *Sitopaladi Churna*also shows evidence-based efficacy in managing upper respiratory tract conditions.[31] These outcomes suggest that the integrative approach used in this case aligns well with the therapeutic outcomes described in the literature. Furthermore, a review by Bhuvaneshwari and Shet emphasized the importance of *Kapha Shamana*, *Srotoshodhana*, and *Rasadhatu* correction in managing chronic coughs, reinforcing the present approach.[32] The preventive strategy using *Septilin* and deworming (Albendazole) further helped prevent recurrence. This case underscores how Ayurvedic treatments—targeting the root cause rather than symptoms alone—can provide a sustainable, effective management strategy for paediatric mucopurulent bronchitis, especially when modern treatment options offer only symptomatic relief.

4. Conclusions

Kaphaja Kasa(chronic or recurrent mucopurulent bronchitis) is one of the *Pranavaha Srotodusti Janita Vyadhi* (a disorder of the Respiratory System) characterized by *Kasa vega* (frequent bouts of coughing)is associated with *Bahala, Ghana, Nishthivana* (more quantity of thick sputum). It closely parallels the modern understanding of mucopurulent chronic bronchitis**.** Effective management of this condition involves *Nidana Parivarjana* (eliminating causative factors), *Shamanaoushadhi* (curative medicines), and *Shodhana* (purification therapies) to restore respiratory balance. In this case, multiple *Ayurvedic* formulations were employed, including *Sitopaladi Churna, Syrup Koflet,* and *Shwasa Kuthara Rasa*. These medicines exhibit *Kapha-Nihsaraka* (mucolytic) and *Kasahara* (anti-cough) properties, helping to reduce mucus production and facilitate expectoration. Initially, the patient presented with a grade 3 cough, accompanied by pain and difficulty in expectoration. The sputum was *Sweta, Bahala,* and *Snigdha* corresponding to grade 2 expectoration. Following the *Ayurvedic* intervention, there was a significant reduction in cough severity, with grading improving from grade 2 to grade 0, indicating minimal to no mucus expectoration. Additionally, before treatment, the patient exhibited *Mandagni (*weak digestion) with symptoms such as slow digestion and oral stickiness. After the treatment, *Agni* (digestive fire) improved to *Pradipta Agni* (optimal digestion), and oral stickiness resolved. This case illustrates marked improvement in both respiratory function and digestion, showcasing the effectiveness of a comprehensive *Ayurvedic* approach in managing *Kaphaja Kasa*.

5. Declaration Of Patient Consent

The authors certify that the patient's written consent was obtained before publishing data without disclosing the patient's personal information. In these forms, the patient has provided consent for their images and clinical information to be published in the journal. The patient will remain anonymous, and their identifiers, including names and initials, will be kept confidential. All necessary measures will be taken for the patient's privacy.

6. Authors Contribution

Dr. Preeti L Prasad contributed to the conceptualization, methodology, and clinical assessment. Dr. Arun Raj G R provided *Ayurvedic* treatment expertise and supervised the study. Dr. Rinkal Satuniya was responsible for the data analysis and manuscript writing. Dr. Mokindan R contributed to data analysis and manuscript editing.

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